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**S A F E T Y**

**LFHIIs: Low Frequency High Impact Incidents**

The National Academy of Construction is mounting a safety initiative to inform and caution industry leaders of a historical safety trend that even the best safety-performing companies are vulnerable to: low frequency high impact incidences (LFHIIs). NAC realizes that the circumstances surrounding low frequency incidents can vary greatly, but feels if a fatality occurs, then the incident must be classified as an LFHII.

From 2006 the construction industry experienced six consecutive years of declining fatalities until 2012. Then, according to data from OSHA, construction fatalities in the private sector rose from 738 in 2011 to 775 in 2012, an increase of five percent. This occurred while total hours worked increased by only one percent during the same period.  
[http://stats.bls.gov/news.release/archives/cfoi\\_08222013.htm](http://stats.bls.gov/news.release/archives/cfoi_08222013.htm)

Also of concern is despite significant progress in reducing construction employee injuries, the industry's fatality rate has not improved at the same rate. From 1989 to 2012, the OSHA Total Recordable Incident Rate (TRIR) per 100 employees improved from 14.3 to 3.6, or almost 75 percent. In comparison, however, fatalities improved by a lesser 42 percent, (16.4 to 9.9 per 100,000) a 33 percent differential. This raises the questions of "Why?" and "Are there leading indicators that can be used to prevent LFHIIs?"

This Safety White Paper is NAC's first step in alerting construction industry leaders of this major safety performance anomaly. NAC would also like to inform industry leaders that the Construction Industry Institute (CII), Austin, TX has recently initiated an LFHII research project to examine the LFHII type event and seek answers to two questions:

1. Are there precursors or leading indicators of low frequency high impact events?
2. If so, what are they and how can they be identified, analyzed, and utilized?

Going forward, as a part of NAC's Safety Position Paper series, we will issue additional White Papers on this subject to highlight the industry's vulnerability to LFHIIs and seek to inform the industry of potential causative factors.

*NAC position paper provided by the NAC Safety Committee,  
Emmitt J. Nelson, PE, Chair*

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Information and details on the increasingly popular "Zero Injury Safety Leadership Concept" are available from the following: Construction Industry Institute, 3925 W. Braker Lane (R4500), Austin, TX 78759-5316, ph. (512) 232-3004, Websites are [www.construction-institute.org](http://www.construction-institute.org) and [www.naocon.org](http://www.naocon.org) Copies of the NAC Safety White Paper series may be downloaded from the latter.

The National Academy of Construction (NAC) is an organization of leaders from industry, construction, the military, and academia formed as a knowledge base of American competence in the construction of capital facilities. NAC position papers are created from the experience base of NAC membership and are offered to American business and government leaders as answers to challenges facing American enterprise. NAC position papers are issued after peer review and consent by the NAC Safety Committee members.